CLAIMS:

1.   A method comprising:

receiving a packet having a first class of service (CoS) information that conforms to a first network protocol;

indirectly mapping the first CoS information to a second CoS information using an intermediate CoS information, wherein the second CoS information conforms to a second network protocol; and

forwarding the packet with the second CoS information.

2.   The method of claim 1, wherein indirectly mapping comprises:

applying a first policy to map the first CoS information to the intermediate CoS information; and

applying a second policy to map the intermediate CoS information to the second CoS information.

3.   The method of claim 2,

wherein the first policy comprises a protocol-specific policy in accordance with the first network protocol, and

wherein the second policy comprises a protocol-specific policy in accordance with the second network protocol

4.   The method of claim 2, further comprising:

presenting a user interface to receive input; and

configuring the first policy and the second policy based on the input.

5.   The method of claim 1,

wherein receiving a packet comprises receiving the packet with a first interface of a network device; and

wherein forwarding the packet comprises forwarding the packet with a second interface of the network device.

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6.   The method of claim 5, wherein the first interface is associated with a first interface card of a network router, and the second interface is associated with a second interface card of the network router.

7.   The method of claim 5, further comprising:

updating the packet with the first interface to include the intermediate CoS information; and

communicating the packet and the intermediate CoS information from the first interface to the second interface.

8.   The method of claim 7, wherein updating the packet with the first interface comprises adding a header to the packet that specifies the intermediate CoS information.

9.   The method of claim 7, wherein forwarding the packet comprises:

removing the intermediate CoS information from the packet with the second interface;

updating the packet to include the second CoS information; and

forwarding the packet with the second CoS information with the second interface.

10.   The method of claim 1, wherein the intermediate CoS information comprises protocol-independent metadata associated with the packet.

11.   The method of claim 1, wherein the first CoS information and the second CoS information each comprise one of Internet Protocol (IP) Type of Service (ToS) information, Multiprotocol Label Switching (MPLS) experimental (EXP) bits, Virtual Local Area Network (VLAN) user priority information, and Internet Protocol version 6 (IPv6) traffic class information.

12.   The method of claim 1,

      wherein receiving a packet comprises receiving the packet with a router; and

      wherein forwarding the packet comprises forwarding the packet with the router.

13.   The method of claim 12, wherein forwarding the packet comprises forwarding the packet with a centralized forwarding engine of the router.

14.   The method of claim 12, wherein forwarding the packet comprises forwarding the packet with a forwarding component within an interface card of the router.

15.   A system comprising:

      a first interface to receive a packet having a first class of service (CoS) information that conforms to a first network protocol, wherein the first interface maps the first CoS information to an intermediate CoS information; and

      a second interface to map the intermediate CoS information to a second CoS information that conforms to a second network protocol.

16.   The system of claim 15,

      wherein the first interface applies a first policy to map the first CoS information to the intermediate CoS information; and

      wherein the second interface applies a second policy to map the intermediate CoS information to the second CoS information.

17.   The system of claim 16, wherein the first policy comprises a protocol-specific policy in accordance with the first network protocol, and the second policy comprises a protocol-specific policy in accordance with the second network protocol

18.   The system of claim 16, further comprising a management module to present a user interface to receive input, and configure the first policy and the second policy based on the input.

19.   The system of claim 15, wherein the first interface is associated with a first interface card of a network router, and the second interface is associated with a second interface card of the network router.

20.   The system of claim 15, wherein the first interface adds the intermediate CoS information to the packet, and communicates the packet and the intermediate CoS information to the second interface.

21.   The system of claim 20, wherein the second interface removes the intermediate CoS information from the packet, and adds the second CoS information to the packet.

22.   The system of claim 15, wherein the intermediate CoS information comprises protocol-independent metadata associated with the packet.

23.   The system of claim 15, wherein the first CoS information and the second CoS information each comprise one of Internet Protocol (IP) Type of Service (ToS) information, Multiprotocol Label Switching (MPLS) experimental (EXP) bits, Virtual Local Area Network (VLAN) user priority information, and Internet Protocol version 6 (IPv6) traffic class information.

24.   The system of claim 15, wherein the first interface comprises a logical interface associated with the first protocol, and the second interface comprises a logical interface associated with the second protocol.

25.   The system of claim 15, wherein the first interface is associated with a first interface card, and the second interface is associated with the second interface card.

26.   A network device comprising a control unit that associates intermediate CoS information with a packet to indirectly map first class of service (CoS) information that conforms with a first network protocol to second CoS information that conforms to a second network protocol.

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27.   The network device of claim 27, wherein the network device applies policies to map the first CoS information to the intermediate CoS information and to map the intermediate CoS information to the second CoS information.

28.   The network device of claim 26, wherein the network device comprises a router.

29.   A computer-readable medium comprising instructions to cause a processor to:
       receive a packet having a first class of service (CoS) information that conforms to a first network protocol; and
       process the packet to include intermediate CoS information for mapping the first CoS information to a second CoS information that conforms to a second network protocol.

30.   The computer-readable medium of claim 29, further comprising instructions to cause the processor to apply a policy to the packet to generate the intermediate CoS information from the first CoS information.

31.   The computer-readable medium of claim 30, wherein the policy comprises a protocol-specific policy in accordance with the first network protocol.

32.   The computer-readable medium of claim 29, wherein the intermediate CoS information comprises protocol-independent metadata associated with the packet.

33.   The computer-readable medium of claim 29, wherein the first CoS information comprises one of Internet Protocol (IP) Type of Service (ToS) information, Multiprotocol Label Switching (MPLS) experimental (EXP) bits, Virtual Local Area Network (VLAN) user priority information, and Internet Protocol version 6 (IPv6) traffic class information.

34.   A method comprising:

processing a packet with a first interface to associate the packet with metadata that defines protocol-independent policy information; and

subsequently processing the packet with a second interface in accordance with the protocol-independent policy information.

35.   The method of claim 34,

wherein processing a packet comprises applying a first policy to the packet to map the packet to the protocol-independent policy information, wherein the first policy is specific to a first protocol, and

wherein subsequently processing the packet comprises mapping the protocol-independent policy information to a second policy that is specific to a second network protocol, and applying the second policy to the packet.

36.   The method of claim 35,

wherein applying a first policy comprises applying the first policy to first header information of the packet, wherein the first header information conforms to a first network protocol, and

wherein applying a second policy comprises applying the second policy to second header information of the packet, wherein the second header information conforms to a second network protocol.

37.   The method of claim 34, further comprising:

storing the protocol-independent policy information as metadata within a memory of a network device; and

associating the metadata with the packet throughout an entire packet-processing path of the network device.

38.   The method of claim 34, wherein the protocol-independent policy information comprises protocol-independent CoS information.